THE IUCN RED LIST
OF THREATENED SPECIES™

Jynx torquilla (Eurasian Wryneck)

European Red List of Birds

Supplementary Material

The European Union (EU28) Red List assessments were based principally on the official data reported by EU Member States to the European Commission under Article 12 of the Birds Directive in 2019-20. For the European Red List assessments, similar data were sourced from BirdLife Partners and other collaborating experts in other European countries and territories. For more information, see BirdLife International (2021).

Contents

Recommended citation

BirdLife International (2021) European Red List of Birds. Luxembourg: Publications Office of the European Union.

Further information

http://datazone.birdlife.org/info/euroredlist
http://www.birdlife.org/europe-and-central-asia/european-red-list-birds-0
http://www.iucnredlist.org/regions/europe
http://ec.europa.eu/environment/nature/conservation/species/redlist/

Data requests and feedback

To request access to these data in electronic format, provide new information, correct any errors or provide feedback, please email science@birdlife.org.

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Table 1. Reported national breeding population size and trends in Europe[1].

Country (or territory)[2]	Population estimate				Short-term population trend[5]				Long-term population trend[5]				Subspecific population (where relevant)
	Size (pairs)[3]	Europe (%)	Year(s)	Method[4]	Direction[6]	Magnitude (%)[7]	Year(s)	Method[4]	Direction[6]	Magnitude (%)[7]	Year(s)	Method[4]	
Albania	1000–2300	<1	2007-2018	partial	+	637 to 950	2007-2018	partial	+	1373 to 2000	1980-2018	expert	
Andorra	0	<1	2014-2017	expert	?		2011-2018	deficient	?				
Armenia	260–390	<1	2013-2018	complete	0		2007-2018		?		2003-2018	deficient	
Austria	3300–4900	<1	2013-2018	partial	0		2007-2018	complete	?		1981-2018	deficient	
Azerbaijan	1000–5000	<1	1996-2019	expert	?		2013-2019	expert	?		1980-2019	expert	
Belarus	110000–150000	12	2010-2018	partial	0	-10 to 10	2012-2019	expert	0	0	1980-2019	expert	
Belgium	60–110	<1	2013-2018	complete	+	25 to 91	2008-2018	partial	+	560 to 910	1973-2018	partial	
Bosnia & HG	3000–6000	<1	2015-2018	complete	?	-10 to 10	2007-2018	complete	?		1980-2018	deficient	
Bulgaria	2500–5000	<1	2013-2018	partial	-	-30 to -10	2000-2018	partial	0	0 to 5	1980-2018	expert	
Croatia	12600–35500	2	2013-2018	complete	?		2007-2018	deficient	?		1980-2018	deficient	
Czechia	2500–5000	<1	2014-2017	complete	0		2007-2018	complete	-		1982-2018	complete	
Denmark	210–220	<1	2017	complete	?		2006-2017	expert	0	-89 to 1229	1990-2017	complete	
Estonia	5000–10000	<1	2013-2017	partial	0	-49 to 12	2007-2018	partial	-	-50 to -20	1980-2018	expert	
Finland	3500–11800	<1	2013-2018	complete	-	-76 to -37	2007-2018	complete	-	-88 to -53	1980-2018	complete	
France	20000–40000	3	2013-2018	partial	0		2007-2018	partial	0	0 to -5	2001-2018	partial	
Georgia	1700–17100	<1	2013-2017	partial	?			deficient	?				
Germany	8500–15500	1	2009-2016	expert	0		2004-2016	expert	-		1980-2016	expert	
Greece	300–500	<1	2013-2018	partial	?		2007-2018	deficient	0		1980-2018	partial	
Hungary	18200–25000	2	2014-2018	complete	?		2007-2018	complete	?		1980-2018	deficient	
Italy	50000–100000	6	2013-2018	expert	-	-35 to -25	2012-2017	partial	+		1993-2018	expert	
Kosovo	500–700	<1	2007-2019	partial	-		2007-2018	partial	?		1990-2018	partial	
Latvia	4000–10000	<1	2018-2018	partial	?	-45 to 44	2008-2018	complete	+	300 to 2145	1995-2018	complete	
Lithuania	10000–12000	1	2013-2018	partial	-	-5 to 0	2013-2018	partial	-	-5 to 0	1980-2018	partial	
Luxembourg	50–100	<1	2013-2018	partial	-	-20 to -10	2007-2018	partial	-	-20 to -10	1980-2018	partial	
North Macedonia	2000–5000	<1	2014-2019	expert	0		2007-2018	expert	?		1980-2019		
Moldova	5000–6000	<1	2014-2017	partial	+		2007-2018	partial	0		1990-2018	expert	
Montenegro	500–1000	<1	2002-2012	expert	0		2007-2018	expert	?				
Netherlands	35–100	<1	2013-2017	complete	+	248 to 859	2006-2017	complete	-	-79 to -73	1980-2017	complete	
Norway	1500–3000	<1	2013-2018	expert	?		2013-2018	deficient	?		1980-2018	partial	
Poland	66000–94000	7	2013-2018	complete	+	9 to 66	2007-2018	complete	?		1980-2018	deficient	
Portugal	1000–5000	<1	2013-2018	partial	?		2007-2018	partial	?		1980-2018	deficient	
Romania	43900–91300	6	2013-2015	complete	?	-6 to 8	2008-2018	complete	?		1980-2018	deficient	

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	Size (pairs)[3]	Europe (%)	Year(s)	Method[4]	Direction[6]	Magnitude (%)[7]	Year(s)	Method[4]	Direction[6]	Magnitude (%)[7]	Year(s)	Method[4]	
Russia	300000–550000	37	2008-2018	partial	0		2008-2018	expert	?		1980-2018	deficient	
Serbia	3900–6200	<1	2013-2018	partial	0	0	2007-2018	complete	0	0	1980-2018	complete	
Slovakia	4000–6000	<1	2013-2018	partial	0		2007-2018	complete	-	-15 to -5	1980-2018	expert	
Slovenia	5000–10000	<1	2002-2018	partial	0		2008-2018	complete	?		1980-2018	deficient	
Spain	42300–91300	6	2004-2006	partial	-		2007-2018	complete	0		1980-2018	complete	
Sweden	11000–39000	2	2013-2018	partial	0	-17 to 29	2007-2018	partial	-	-71 to -51	1980-2018	partial	
Switzerland	1000–2500	<1	2013–2016	complete	+	19 to 67	2007-2018	complete	0	-23 to 11	1990-2018	complete	
Turkey	500–2000	<1	2002-2012	deficient	?		2008-2019	deficient	?		1980-2013	deficient	
Ukraine	50000–150000	8	2015-2017	partial	?		2007-2018	deficient	F		1980-2018	deficient	
United Kingdom	0	<1	2012-2016	expert	-		2001-2016	complete	-		1978-2016	complete	
EU28	314000–613000	40											
Europe	**795000–1520000**	**100**											

[1] See 'Sources' at end of factsheet, and for more details on individual EU Member State reports, see the Article 12 reporting portal at http://bd.eionet.europa.eu/article12/report.
[2] The designation of geographical entities and the presentation of the material do not imply the expression of any opinion whatsoever on the part of IUCN or BirdLife International concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.
[3] In the few cases where population size estimates were reported in units other than those specified, they were converted to the correct units using standard correction factors.
[4] The 'method used' (replacing the data 'quality' assessment in the 2015 European Red List) is reported as: a) Complete: complete survey or a statistically robust estimate; b) Partial: based mainly on extrapolation from a limited amount of data; c) Expert: based mainly on expert opinion with very limited data; d) Defficient: insufficient or no data available.
[5] The robustness of regional trends to the effects of any missing or incomplete data was tested using plausible scenarios, based on other sources of information, including any other reported information, recent national Red Lists, scientific literature, other publications and consultation with relevant experts.
[6] Trend directions are reported as: increasing (+); decreasing (-); stable (0); fluctuating (F); or unknown (?).
[7] Trend magnitudes are rounded to the nearest integer.

Trend maps

A symbol appears in each country where the species occurs: the shape and colour of the symbol represent the population trend in that country, and the size of the symbol corresponds to the proportion of the European population occurring in that country.

KEY

- Large increase (≥50%)
- Moderate increase (20–49%)
- Small increase (<20%)
- Increase of unknown magnitude
- Stable or fluctuating
- Unknown
- Present (no population or trend data)
- Extinct since 1980
- Large decrease (≥50%)
- Moderate decrease (20–49%)
- Small decrease (<20%)
- Decrease of unknown magnitude

Each symbol, with the exception of Present and Extinct, may occur in up to three different size classes, corresponding to the proportion of the European population occurring in that country.

- Large: ≥10% of the European population
- Medium: 1–9% of the European population
- Small: <1% of the European population

The designation of geographical entities and the presentation of the material do not imply the expression of any opinion whatsoever on the part of IUCN or BirdLife International concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Figure 1. Breeding population sizes and short-term trends across Europe.

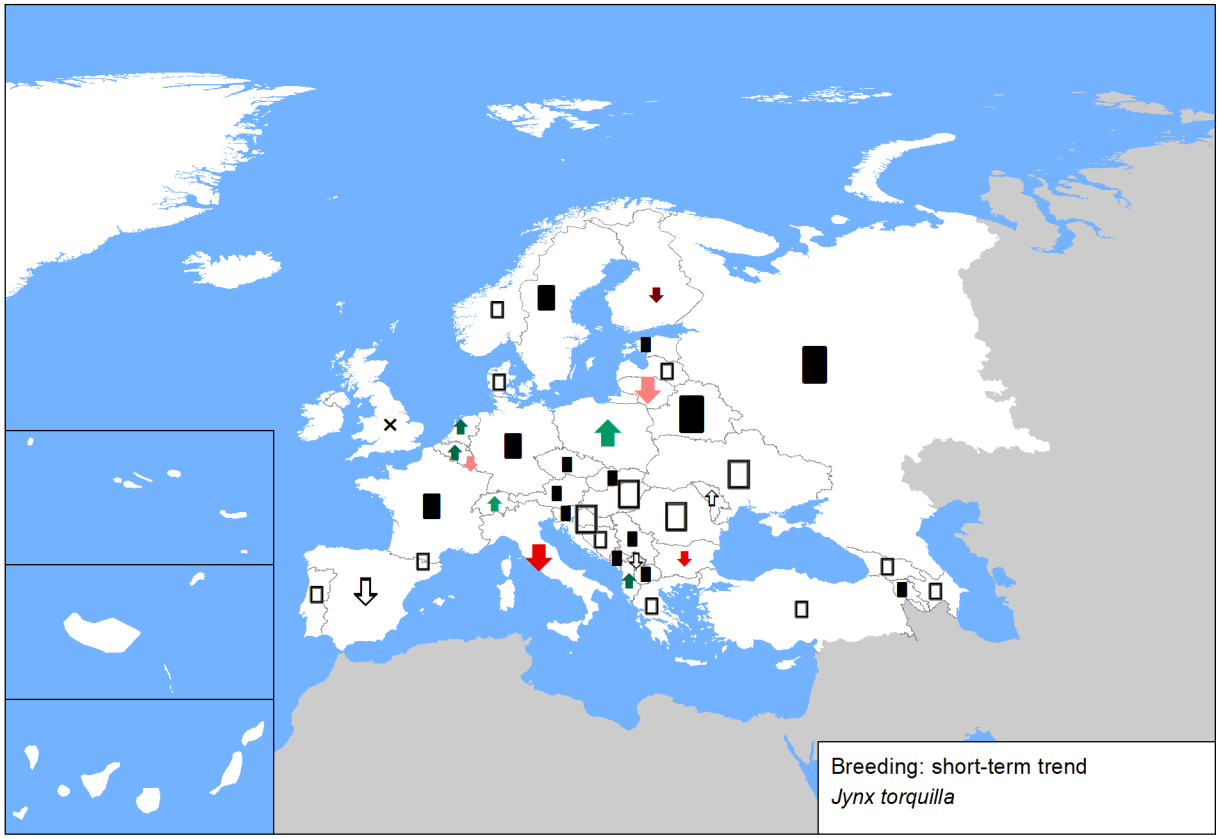
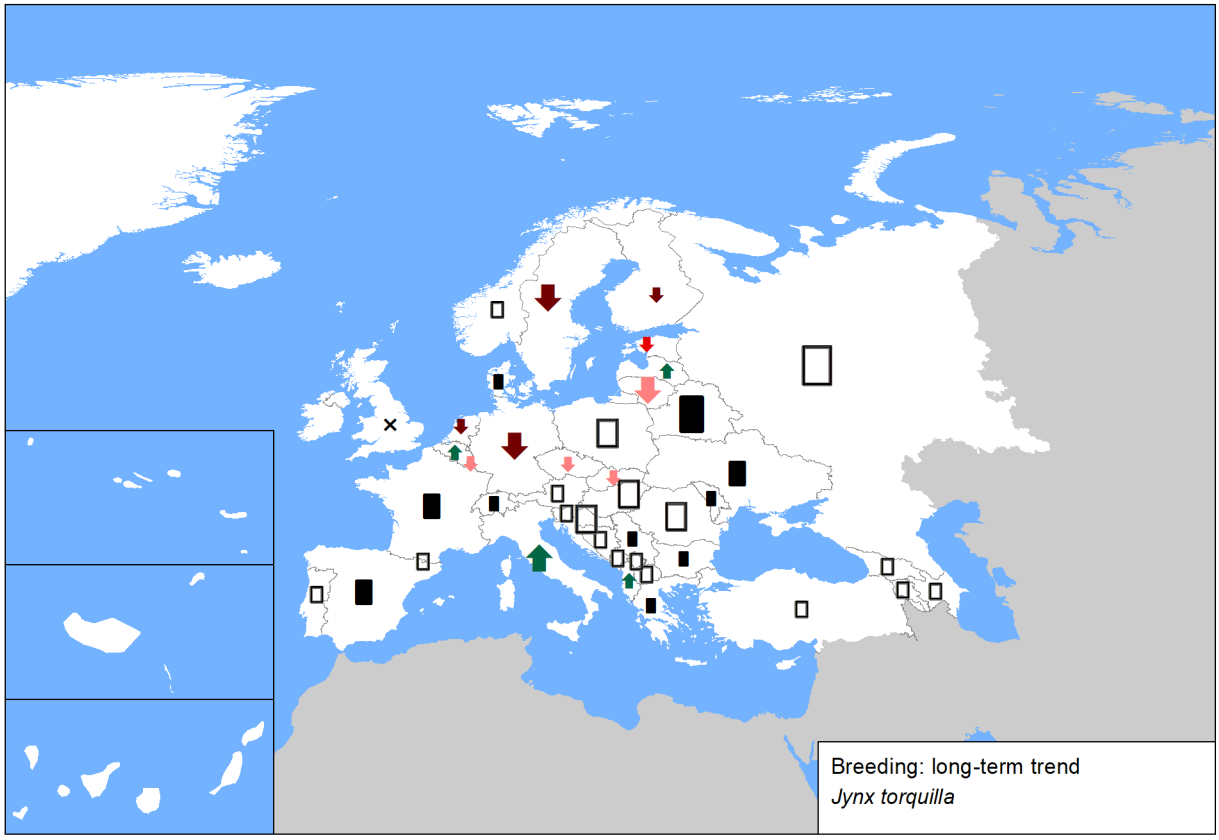


Figure 2. Breeding population sizes and long-term trends across Europe.



Sources

Albania

Breeding population size: Bino & Xeka pers. obs.
Breeding short-term trend: Bino & Xeka pers. obs.
Breeding long-term trend: Bino pers. obs.

Andorra

Breeding population size: Fieldwork EBBA2, published at "Guia dels ocells d'Andorra. J. Nicolau & C. Pladevall, 2018"
Breeding short-term trend: Common Bird Monitoring Scheme of Andorra (SOCA)

Armenia

Breeding population size: TSE NGO National Bird Monitoring data.
Breeding short-term trend: TSE (2020) The Atlas of the Breeding Birds in Armenia. In preparation.
Breeding long-term trend: TSE (2020) The Atlas of the Breeding Birds in Armenia. In preparation.

Austria

Breeding population size: BirdLife Austria, estimate based on a sample of breeding densities from different sites and habitats and corrected by the results of the Austrian breeding bird monitoring ("Brutvogelmonitoring") for 1998- 2018
Breeding short-term trend: BirdLife Austria, results of the Austrian Breeding bird monitoring ("Brutvogelmonitoring")
Breeding long-term trend: BirdLife Austria, unpublished

Azerbaijan

Breeding population size: BirdLife International 2004
Breeding short-term trend: AOS data base
Breeding long-term trend: AOS Data Base

Belarus

Breeding population size: Research work of the National Academy of Sciences of the Republic of Belarus “Dynamics and predictive assessment of changes in the state of populations of the main resource and biocenotically most important bird species in Belarus”
Breeding long-term trend: Nikiforov M.E., Kozulin A.V., eds. Belarussian birds at the beginning of XXI century: status, numbers, distribution. - 1997. - Minsk. - 187 p.

Belgium

Breeding population size: Vermeersch G. et al. (2018, in press). Broedvogels in Vlaanderen in de periode 2013-2018. Rapporten van het Instituut voor Natuur- en Bosonderzoek (INBO), Brussel. / Paquet, J-Y., Anselin, A., Vermeersch, G., Derouaux, A., Devos, K. (2019, in prep.). Contribution of Belgium to EBCC European Breeding Bird Atlas 2. Internal Report.
Breeding short-term trend: Vermeersch G. et al. (2018, in press). Broedvogels in Vlaanderen in de periode 2013-2018. Rapporten van het Instituut voor Natuur- en Bosonderzoek (INBO), Brussel. / Paquet, J-Y., Anselin, A., Vermeersch, G., Derouaux, A., Devos, K. (2019, in prep.). Contribution of Belgium to EBCC European Breeding Bird Atlas 2. Internal Report.
Breeding long-term trend: Vermeersch G. et al. (2018, in press). Broedvogels in Vlaanderen in de periode 2013-2018. Rapporten van het Instituut voor Natuur- en Bosonderzoek (INBO), Brussel. / Paquet, J-Y., Anselin, A., Vermeersch, G., Derouaux, A., Devos, K. (2019, in prep.). Contribution of Belgium to EBCC European Breeding Bird Atlas 2. Internal Report.

Bosnia and Herzegovina

Breeding population size: Based on data for EBBA2
Breeding short-term trend: more individual articles e.g published in magazine Bilten mreže posmatrača ptica u Bosni i Hercegovini-see https://ptice.ba/bs/category/bilteni_/), individual reports (e.g. for EBBA2, projects etc)

Bulgaria

Breeding population size: Iankov, P. (ed.) 2007 Atlas of Breeding Birds in Bulgaria. Bulgarian Society for the Protection of Birds, Conservation Series, Book 10, Sofia, BSPB, 679 p.; National Art. 12 reporting database 2013-2018; Nankinov D., S. Simeonov, T. Michev, B. Ivanov. 1997. Fauna of Bulgaria, Vol. 26, Aves, part II, Sofia, BAS, 426 p. (in Bulgarian, with English Summary) BSPB Bird Database
Breeding short-term trend: Iankov, P. (ed.) 2007 Atlas of Breeding Birds in Bulgaria. Bulgarian Society for the Protection of Birds, Conservation Series, Book 10, Sofia, BSPB, 679 p.; National Art. 12 reporting database 2013-2018; BSPB Bird Database
Breeding long-term trend: Iankov, P. (ed.) 2007 Atlas of Breeding Birds in Bulgaria. Bulgarian Society for the Protection of Birds, Conservation Series, Book 10, Sofia, BSPB, 679 p. Nankinov D., S. Simeonov, T. Michev, B. Ivanov. 1997. Fauna of Bulgaria, Vol. 26, Aves, part II, Sofia, BAS, 426 p. (in Bulgarian, with English Summary) BSPB Bird Database

Croatia

Breeding population size: Mikulić, K., Katanović, I., Zec, M., Budinski, I., (2018.): Izvještaj o stanju očuvanosti određenih vrsta ptica na području Republike Hrvatske. Udruga BIOM. Zagreb. 34 str.
Breeding short-term trend: Mikulić, K., Katanović, I., Zec, M., Budinski, I., (2018.): Izvještaj o stanju očuvanosti određenih vrsta ptica na području Republike Hrvatske. Udruga BIOM. Zagreb. 34 str.

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Breeding long-term trend: Mikulić, K., Katanović, I., Zec, M., Budinski, I., (2018.): Izvještaj o stanju očuvanosti određenih vrsta ptica na području Republike Hrvatske. Udruga BIOM. Zagreb. 34 str.

Czechia

Breeding population size: Šťastný et Bejček in prep. - Atlas hnízdního rozšíření ptáků ČR 2014-2017

Breeding short-term trend: ČSO (unpubl.): Common Bird Monitoring Programme

Breeding long-term trend: ČSO (unpubl.): Common Bird Monitoring Programme

Denmark

Breeding population size: www.dofbasen.dk & Nyegaard,T. et al.,Truede og sjældne ynglefugle i Danmark 1998-2012, Dansk Ornitologisk Forenings Tidsskrift 108, nr 1, 2014 & Atlas III 2014-2017 (www.dofbasen.dk/atlas) & DOF BirdLifeDK Fugleåret 2006-2017 &

Breeding short-term trend: www.dofbasen.dk & Nyegaard,T. et al.,Truede og sjældne ynglefugle i Danmark 1998-2012, Dansk Ornitologisk Forenings Tidsskrift 108, nr 1, 2014 & Atlas III 2014-2017 (www.dofbasen.dk/atlas) & DOF BirdLifeDK Fugleåret 2006-2017

Breeding long-term trend: www.dofbasen.dk & Nyegaard,T. et al.,Truede og sjældne ynglefugle i Danmark 1998-2012, Dansk Ornitologisk Forenings Tidsskrift 108, nr 1, 2014 & Atlas III 2014-2017 (www.dofbasen.dk/atlas) & DOF BirdLifeDK Fugleåret 2006-2017

Estonia

Breeding population size: Estonian Working Group on Bird Status and Numbers

Breeding short-term trend: [1] Estonian Working Group on Bird Status and Numbers [2] Point counts of breeding birds. http://seire.keskkonnainfo.ee/index.php?option=com_content&view=article&id=3417&Itemid=5815

Breeding long-term trend: [1] Estonian Working Group on Bird Status and Numbers

Finland

Breeding population size: Lehikoinen, A. , Below, A., Jukarainen, A., Laaksonen, T., Lehtiniemi, T., Mikkola-Roos, M., Pessa, J., Rajasärkkä, A., Rusanen, P., Sirkiä, P., Tiainen, J. & Valkama, J. 2019: Suomen lintujen pesimäkantojen koot. – Linnut-vuosikirja 2018: 38-45.

Breeding short-term trend: Väisänen ymVäisänen, R. A., Lehikoinen, A. & Sirkiä, P. 2018: Suomen pesivän maalinnuston kannanvaihtelut 1975-2017. – Linnut-vuosikirja 2017: 16–31.

Breeding long-term trend: Väisänen, R. A., Lehikoinen, A. & Sirkiä, P. 2018: Suomen pesivän maalinnuston kannanvaihtelut 1975-2017. – Linnut-vuosikirja 2017: 16–31.

France

Breeding population size: Issa N. & Muller Y. 2015. Atlas des oiseaux nicheurs de France métropolitaine. , LPO/SEOF/MNHN/Delachaux et Niestlé, Paris

Breeding short-term trend: . STOC EPS / MNHN.

Georgia

Breeding population size: EBBA Georgia, prepared by Sabuko-Society for nature conservation, Ilia state university, NGO "psovi".

Germany

Breeding population size: Gerlach et al. (in Vorb.): Vögel in Deutschland – 2019. Dachverband Deutscher Avifaunisten, Bundesamt für Naturschutz und Länderarbeitsgemeinschaft der Vogelschutzwarten, Münster.

Breeding short-term trend: Gerlach et al. (in Vorb.): Vögel in Deutschland – 2019. Dachverband Deutscher Avifaunisten, Bundesamt für Naturschutz und Länderarbeitsgemeinschaft der Vogelschutzwarten, Münster.

Breeding long-term trend: Gerlach et al. (in Vorb.): Vögel in Deutschland – 2019. Dachverband Deutscher Avifaunisten, Bundesamt für Naturschutz und Länderarbeitsgemeinschaft der Vogelschutzwarten, Münster.

Greece

Breeding population size: (1) BirdLife International (2017). European birds of conservation concern: populations, trends and national responsibilities. Cambridge. UK: BirdLife Internationa. ISBN 978-1-912086-00-9, (2) Portolou, D., Bourdakis, S., Vlachos, C., Kastritis, T., and Dimalexis. T. (eds.) 2009. Important Bird Areas of Greece: Priority sites for conservation. Hellenic Ornithological Society. Athens. (3) Dimalexis, T., Bousbouras, D., Kastritis, T., Manolopoulos, A. & Saravia, V. (eds.) 2009. Evaluation of 69 Important Bird Areas as Special Protection Areas. Hellenic Ministry for the Environment, Physical Planning and Public Works, Athens. (4) Dimalexis, T., Bousbouras, D., Kastritis, T., Manolopoulos, A. & Saravia, V. (eds.) 2009. Evaluation of 69 Important Bird Areas as Special Protection Areas. Hellenic Ministry for the Environment, Physical Planning and Public Works, Athens.

Breeding short-term trend: no data

Breeding long-term trend: 1) Handrinos,G., & Akriotis, T., (1997) The birds of Greece. C. Helm, A & C Black, London. 2) BirdLife International (2004) Birds in Europe:Population estimates, trends and conservation status. Cambridge, UK: Birdlife International (Birdlife Conservation Series No. 12).

Hungary

Breeding population size: National common bird monitoring scheme (MMM) database.

Breeding short-term trend: National common bird monitoring scheme (MMM) database.

Breeding long-term trend: Tucker, G. M. – Heath, M. F. (1994): Birds in Europe – Their Conservation Status. Royal Society for the Protection of Birds, BirdLife International, 364-365 p.

Italy

Breeding population size: BirdLife International 2017. European birds of conservation concern: populations, trends and national responsibilities. Cambridge, UK: BirdLife International.

Breeding short-term trend: Extrapolated data by the average annual trend, from: Rete Rurale Nazionale & Lipu (2018). Uccelli comuni delle zone agricole in Italia. Aggiornamento degli andamenti di popolazione e del FBI per la Rete Rurale Nazionale dal 2000 al 2017. 16 pp.

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Italy

Breeding long-term trend: Brichetti P., Meschini E., 1993. Stima delle popolazioni di uccelli nidificanti. In Meschini E., Frugis S.,1993. Atlante degli uccelli nidificanti in Italia. Suppl. Ric. Biol. Selvaggina, 20, 1-345.

Kosovo

Breeding population size: Qenan Maxhuni

Breeding short-term trend: Qenan Maxhuni

Breeding long-term trend: Puzovic, S. et al. (2004): Birds of Serbia and Montenegro – Size of nesting populations. I trends: 1990-2002. Ciconia 12

Latvia

Breeding population size: Expert: Madars Bergmanis, bmadars@gmail.com

Breeding short-term trend: Aunins A. 2018. [Countrywide monitoring of the common birds. Final report for the year 2018.] (in Latvian) Latvian Ornithological society, 59 pp.

Breeding long-term trend: Aunins A. 2018. [Countrywide monitoring of the common birds. Final report for the year 2018.] (in Latvian) Latvian Ornithological society, 59 pp.

Lithuania

Breeding population size: Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) 2015-2018. Lietuvos perinčių paukščių atlaso duomenų bazė (Lithuanian Breeding Birds Atlas Database). Vilnius. Ministry of Environment of the Republic of Lithuania. 2012. Status and trends of bird populations (Article 12, Birds Directive 2009/147/EC) National Summary 2008-2012 Lithuania.

Breeding short-term trend: Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) 2015-2018. Lietuvos perinčių paukščių atlaso duomenų bazė (Lithuanian Breeding Birds Atlas Database). Vilnius. Ministry of Environment of the Republic of Lithuania. 2012. Status and trends of bird populations (Article 12, Birds Directive 2009/147/EC) National Summary 2008-2012 Lithuania.

Breeding long-term trend: Logminas, V. (ed.). 1991. Lietuvos fauna: paukščiai. Vilnius: „Mokslas“. Kurlavičius, P. (ed.) 2006. Lietuvos perinčių paukščių atlasas. Kaunas: „Lututė“. Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) BirdLife International/European Bird Cencus Council. 2000. European bird populations: estimates and trends. Cambridge, UK: BirdLife International (BirdLife Conservation Series No. 10). Raudonikis L. 2004. Important Bird Areas of the European Union Importance in Lithuania. Lithuanian Ornithological Society & Institute of Ecology of Vilnius University. Lutute, Vilnius. Jusys, V., Karalius, S., Raudonikis, L. 2012. Lietuvos paukščių pažinimo vadovas. Kaunas: „Lututė“. Ministry of Environment of the Republic of Lithuania. 2012. Status and trends of bird populations (Article 12, Birds Directive 2009/147/EC) National Summary 2008-2012 Lithuania. Expert working group of the Lithuanian Ornithological Society (lod@birdlife.lt) 2015-2018. Lietuvos perinčių paukščių atlaso duomenų bazė (Lithuanian Breeding Birds Atlas Database). Vilnius.

Luxembourg

Breeding population size: Ornitho.lu (2018): online database natur&ëmwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&ëmwelt Luxembourg. ISBN: 978-2-919920-01-3

Breeding short-term trend: Ornitho.lu (2018): online database natur&ëmwelt asbl & Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&ëmwelt Luxembourg. ISBN: 978-2-919920-01-3; LUXOR (2018): natur&ëmwelt – Bird-database, Luxembourg

Breeding long-term trend: Ornitho.lu (2018): online database Dachverband Deutscher Avifaunisten (DDA) e.V.; Luxembourg Recorder (2018): database Musée national d'histoire naturelle; Luxembourg Lorgé P., E. Melchior (2016): Die Vögel Luxemburgs. Natur&ëmwelt Luxembourg. ISBN: 978-2-919920-01-3; LUXOR (2018): natur&ëmwelt – Bird-database, Luxembourg; Melchior E., E. Mentgen, R. Peltzer, R. Schmitt, J. Weiss (1987): Atlas der Brutvögel Luxemburgs. Lëtzebuerger Natur- a Vulleschutzliga. Kremer-Muller & Cie, Foetz, Luxembourg

North Macedonia

Breeding population size: unpublished data from the European Breeding Bird Atlas 2

Breeding short-term trend: unpublished data from the European Breeding Bird Atlas 2

Moldova

Breeding population size: Moldova`s contribution for the second European Breeding Bird Atlas (EBBA2)

Breeding short-term trend: SPPN expert opinion (sppn.moldova@gmail.com)

Breeding long-term trend: SPPN expert opinion (sppn.moldova@gmail.com)

Montenegro

Breeding population size: Puzovic, S., Simic, D., Saveljić, D., Gergelj, J., Tucakov,M.,Stojnic,N., Hulo, I., Ham, I., Vizi,O., Sciban,M., Ruzic,M., Vucanovic,M., Jovanovic, T. (2004): Birds of Serbia and Montenegro – Size of nesting populations. I trends: 1990-2002. Ciconia 12,

Netherlands

Breeding population size: Sovon NEM (Sovon, CBS and provincies) and Bird atlas (Sovon 2018)

Breeding short-term trend: NEM (Sovon, RWS, CBS, provincies)

Breeding long-term trend: Sovon

Norway

Breeding population size: Shimmings P. & Øien, I.J. 2015. Bestandsestimater og trender for norske hekkefugler. NOF-rapport 2015-2.

Breeding long-term trend: Shimmings, P. & Øien, I.J. 2015. Bestandsestimater for norske hekkefugler. NOF Rapport 2-2015. 268 pp.

Poland

Breeding population size: State Environmental Monitoring / Chief Inspectorate of Environmental Protection (survey: MPPL – Common Bird Survey)

Breeding short-term trend: State Environmental Monitoring / Chief Inspectorate of Environmental Protection (survey: MPPL)

Breeding long-term trend: Chief Inspectorate of Environmental Protection & Polish Society for the Protection of Birds (OTOP) / BirdLife Poland

Portugal

Breeding population size: eBird (2019). eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org/portugal/home. (Accessed: October 22, 2018).

Breeding short-term trend: eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org/po

Romania

Breeding population size: Romanian Common Bird Monitoring Programme, Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database

Breeding short-term trend: Romanian Common Bird Monitoring Programme, Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database

Breeding long-term trend: Ornitodata (Romanian Ornithological Society) Database, OpenBirdMaps (Milvus Group) Database, Rombird (Romanian Rarity Commission) Database

Russia

Breeding population size: Voltzit & Kalyakin 2013-2019; Database of the project on Atlas of breeding birds of European Russia

Breeding short-term trend: Preobrazhenskaya expert opinion. voop21@rambler.ru

Serbia

Breeding population size: EBBA2 project; Puzović, S., Radišić, D., Ružić, M., Rajković, D., Radaković, M., Pantović, U., Janković, M., Stojnić, N., Šćiban, M., Tucakov, M., Gergelj, J., Sekulić, G., Agošton, A. & Raković, M. 2015. Birds of Serbia: Breeding Population Estimates and Trends for the Period 2008-2013. Bird protection and study society of Serbia, and Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad.

Breeding short-term trend: Puzović, S., Radišić, D., Ružić, M., Rajković, D., Radaković, M., Pantović, U., Janković, M., Stojnić, N., Šćiban, M., Tucakov, M., Gergelj, J., Sekulić, G., Agošton, A. & Raković, M. 2015. Birds of Serbia: Breeding Population Estimates and Trends for the Period 2008-2013. Bird protection and study society of Serbia, and Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad.

Breeding long-term trend: Puzović, S., Radišić, D., Ružić, M., Rajković, D., Radaković, M., Pantović, U., Janković, M., Stojnić, N., Šćiban, M., Tucakov, M., Gergelj, J., Sekulić, G., Agošton, A. & Raković, M. 2015. Birds of Serbia: Breeding Population Estimates and Trends for the Period 2008-2013. Bird protection and study society of Serbia, and Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad.

Slovakia

Breeding population size: Coordinatory group for reporting 2019. Danko Štefan, Darolová Alžbeta, Krištín Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002. Karaska D., Trnka A., Krištín A., Ridzoň J.: Chránené vtáčie územia Slovenska. ŠOP SR Banská Bystrica, 2015. Ridzoň, J., Karaska, D., Topercer, J., 2015: Aktuálny stav výberových druhov vtákov v Chránených vtáčích územiach na Slovensku. Štátna ochrana prírody SR, Banská Bystrica, 320 s.

Breeding short-term trend: Coordinatory group for reporting 2019, AVES-Symfony Database 2013-2018, KIMS Database 2013-2018. Danko Štefan, Darolová Alžbeta, Krištín Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002.

Breeding long-term trend: Coordinatory group for reporting 2019, AVES-Symfony Database 2013-2018, KIMS Database 2013-2018. Danko Štefan, Darolová Alžbeta, Krištín Anton: Rozšírenie vtákov na Slovensku. VEDA, vyd. SAV Bratislava, 2002. CBC - common bird census

Slovenia

Breeding population size: Mihelič T., Kmecl P., Denac K., Koce U., Vrezec A., Denac D. (eds.) (2019): Atlas ptic Slovenije. Popis gnezdilk 2002–2017. DOPPS, Ljubljana.

Breeding short-term trend: Kmecl P., Šumrada T. (2018): Monitoring splošno razširjenih vrst ptic za določitev slovenskega indeksa ptic kmetijske krajine - končno poročilo za leto 2018. DOPPS, Ljubljana.

Breeding long-term trend: There are no sources for this information.

Spain

Breeding population size: Carrascal, L.M. & Palomino, D. (2008). Las aves comunes reproductoras en España. Población en 2004-2006. SEO/BirdLife. Madrid. 202 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/19_paseriformes_2004_2006_tcm30-208258.pdf)

Breeding short-term trend: Información proporcionada por las Comunidades Autónomas. SEO/BirdLife (2013). Resultados del programa sacre 1996-2013. SEO/BirdLife. Madrid. (https://www.seguimientodeaves.org/ESPECIOS/docs/ESPECIES/3730_RES_SP.pdf). SEO/BirdLife (2019). Programas de seguimiento y grupos de trabajo de SEO/BirdLife 2018. SEO/BirdLife. Madrid. (https:doi.org/10.31170/0073)

Breeding long-term trend: Carrascal, L.M. & Palomino, D. (2008). Las aves comunes reproductoras en España. Población en 2004-2006. SEO/BirdLife. Madrid. 202 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/19_paseriformes_2004_2006_tcm30-208258.pdf) Martí, R. & del Moral, J.C. (Eds.) (2003). Atlas de las Aves Reproductoras de España. Dirección General de Conservación de la Naturaleza- Sociedad Española de Ornitología. Madrid, 733 pp. (https://www.miteco.gob.es/es/biodiversidad/temas/inventarios-nacionales/inventario-especies-terrestres/inventario-nacional-de-biodiversidad/ieet_aves_atlas.aspx) SEO/BirdLife (2019). Programas de seguimiento y grupos de trabajo de SEO/BirdLife 2018. SEO/BirdLife. Madrid. (https:doi.org/10.31170/0073)

Sweden

Breeding population size: Ottosson, U., Ottvall, R., Elmberg, J., Green, M., Gustafsson, R., Haas, F., Holmqvist, N., Lindström, Å., Nilsson, L., Svensson, M., Svensson, S. & Tjernberg, M. 2012. Fåglarna i Sverige – antal och förekomst. SOF, Halmstad. Swedish Bird Survey. BirdLife Sverige, Annual Bird reports.

Breeding short-term trend: Svensk fågeltaxering - Swedish Bird Survey

Breeding long-term trend: Svensk fågeltaxering - Swedish Bird Survey

Switzerland

Breeding population size: Knaus, P., S. Antoniazza, S. Wechsler, J. Guélat, M. Kéry, N. Strebel & T. Sattler (2018): Swiss Breeding Bird Atlas 2013–2016. Distribution and population trends of birds in Switzerland and Liechtenstein. Swiss Ornithological Institute, Sempach.

Breeding short-term trend: https://www.vogelwarte.ch/en/projects/population-trends/breeding-population-indices/

Breeding long-term trend: https://www.vogelwarte.ch/en/projects/population-trends/breeding-population-indices/

Turkey

Breeding population size: Ferdi Akarsu personal communication (2019), Birdlife International (2004) Birds in Europe: population estimates, trends and conservation status, Cambridge UK: Birdlife International (Birdlife Conservation series no: 12) Kusbank Bird Database (Ebird) Kirwan G.M., Boyla K. A., Castell P., Demirci B., Özen M., Welch H., Marlow T., 2008, Birds of Turkey. Londra, Christopher Helm, 978-1-4081-0475-

Ukraine

Breeding population size: Atlas work, non-published data

United Kingdom

Breeding population size: RBBP; Holling, M. & the Rare Breeding Birds Panel. 2018. Rare breeding birds in the United Kingdom in 2016. British Birds 111: 644-694.

Breeding short-term trend: RBBP; Holling, M. & the Rare Breeding Birds Panel. 2018. Rare breeding birds in the United Kingdom in 2016. British Birds 111: 644-694.

Breeding long-term trend: RBBP; Holling, M. & the Rare Breeding Birds Panel. 2018. Rare breeding birds in the United Kingdom in 2016. British Birds 111: 644-694.

Bibliography

Bird, J. P., Martin, R., Akçakaya, H. R., Gilroy, J., Burfield, I. J., Garnett, S. G., Symes, A., Taylor, J., Sekercioglu, Ç. H. and Butchart, S. H. M. 2020. Generation lengths of the world's birds and their implications for extinction risk. Conservation Biology 34(5): 1252-1261. DOI: 10.1111/cobi.13486.

Bird, J. P., Martin, R., Akçakaya, H. R., Gilroy, J., Burfield, I. J., Garnett, S. G., Symes, A., Taylor, J., Sekercioglu, Ç. H. and Butchart, S. H. M. 2020. Generation lengths of the world's birds and their implications for extinction risk. Conservation Biology 34(5): 1252-1261. DOI: 10.1111/cobi.13486.

BirdLife International. 2004. Birds in Europe: population estimates, trends and conservation status. BirdLife International, Cambridge, U.K.

Brazil, M. 2009. Birds of East Asia: eastern China, Taiwan, Korea, Japan, eastern Russia. Christopher Helm, London.

Escandell, V. 2019. Programa Sacre. In: SEO/BirdLife (ed.), Programas de seguimiento y grupos de trabajo de SEO/BirdLife 2018, pp. 4-10. SEO/BirdLife, Madrid.

Hagemeijer, E.J.M. and Blair, M.J. 1997. The EBCC atlas of European breeding birds: their distribution and abundance. T. and A.D. Poyser, London.

Heath, M. and Tucker, G. 1994. Birds in Europe. World Birdwatch 16: 9-13.

Jenni, L. and Kery, M. 2003. Timing of autumn bird migration under climate change: advances in long-distance migrants, delays in short-distance migrants. Proceedings of the Royal Society of London Series B 270(1523): 1467-1471.

PECBMS. 2019. State of common European breeding birds 2018. CSO, Prague.

Winkler, H., Christie, D.A. and Kirwan, G.M. 2015. Eurasian Wryneck (Jynx torquilla). In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. and de Juana, E. (eds), Handbook of the Birds of the World Alive, Lynx Edicions, Barcelona.